

**Translation**

INTERNATIONAL COOPERATION TREATY

PCT/EP2003/006375

**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Cas 2122PCT/MS	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/006375	International filing date (day/month/year) 17 juin 2003 (17.06.2003)	Priority date (day/month/year) 21 juin 2002 (21.06.2002)
International Patent Classification (IPC) or national classification and IPC G02F 1/13, 1/1345, H01L 21/00		
Applicant ASULAB S.A.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>4</u> sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 17 décembre 2003 (17.12.2003)	Date of completion of this report 15 October 2004 (15.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/EP2003/006375

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
 pages 1-14, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages 1-16, filed with the letter of 07 May 2004 (07.05.2004)
- ☒ the drawings:  
 pages 1/5-5/5, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 93/06375

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-16	YES
	Claims		NO
Inventive step (IS)	Claims	1-16	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

### 2. Citations and explanations

#### 1. Reference is made to the following documents:

D2: US 2001/050748 A1 (LEE SANG SEOK) 13 December 2001 (2001-12-13)

D3: PATENT ABSTRACTS OF JAPAN vol. 015, no. 309 (P-1235), 7 August 1991 (1991-08-07) & JP 03 110518 A (STANLEY ELECTRIC CO LTD), 10 May 1991

#### 2. The application does not meet the requirements of PCT Article 6 for the following reasons:

2.1. Claims 1 and 4 have been drafted as separate independent claims. Consequently, the present application is not concise, since it appears that claim 4 could be made to refer back to the first claim by adding the step of structuring a second partition forming a fill channel.

2.2. In view of the objective problem to be solved by the present application (cf. paragraph 3.3 below), it appears essential to mention explicitly in the independent claim(s) that the sealing material is added after the substrates are joined. For the purpose of establishing the present report, it has therefore been considered that the first claim includes the following step:

"adding a sealing material capable of flowing in the gap (28) defined by said joined substrates (4, 6) and the side surface"...;

and that independent claim 4 includes the following step:

"adding a sealing material capable of flowing between the two joined substrates and in the fill channel (22) until"...

Note: although claim 4, as submitted by the applicant in the letter dated 19/05/04, appears to meet the criteria of PCT Article 33(1), the assumptions made above (i.e. considering explicitly that the material is added after the substrates are joined) establish a relationship that ensures unity of invention. It is therefore important to consider both amendments for the requirement of unity of invention to be met.

2.3. The term "large", used in claims 2 and 4, is vague and casts doubt on the meaning of the technical feature to which it refers.

3.1. Document D2, which is considered the prior art closest to the subject matter of the independent claims, describes (figures 3A-3E):  
a method for producing a liquid crystal display cell (cf. title) including a first front substrate (1), a second rear substrate (2) comprising electrodes (cf. paragraph 20) and joined by a sealing frame (8 + 3) including a structured partition (8) and a sealing joint (3) for sealingly confining a liquid crystal material (5). The method further comprises the steps of:

- \* structuring the electrodes on the substrates (implicit in D2);

- \* structuring, on the substrate, a partition for separating the liquid crystal material from the sealing material (cf. figures 3A-3E);

- \* "adding" a sealing material (3, cf. figures 3A-3E);

- \* joining the substrates (figure 3C);

- \* solidifying the sealing material (figure 3D, paragraph 21).

3.2. Document D2 does not mention contact pads for establishing an electrical connection between the cell and the control circuit, or that the material forming the sealing joint is added after the substrates are joined. In D2, the joint (3, 18) is deposited on the substrate before the substrates are joined (cf. figures 3A, 4C).

3.3. While the prior art does suggest adding contact pads (e.g. D2), none of the available documents suggests adding the sealing material after the substrates are joined.

Establishing a time sequence for this step solves the problem of precisely controlling the amount of sealing material deposited and enhances the integrity of the liquid crystal material relative to the sealing material. Indeed, when the sealing material is deposited after the substrates are joined, the amount of material can be precisely controlled and it is impossible for said material to enter the active space, since the partition is already set up.

3.4. The subject matter of claims 1 and 4 is therefore

novel (PCT Article 33(2)) and is considered inventive (PCT Article 33(3)).

Claims 2-3 and 5-16 are dependent on claims 1 and 4 and therefore also meet, as such, the requirements of novelty and inventive step of the PCT.

4. The industrial applicability of the set of claims is clear from the disclosure of the application (PCT Article 33(4)).